

Licensing New Nuclear Plants



Jerry N. Wilson, PE
New Reactor Licensing Branch
U.S. Nuclear Regulatory Commission



Agenda

- Combined License
- Advanced Nuclear Facility
- Commencement of Construction
- Schedules for ITAAC
- Hearing Opportunity
- Full-power Operation



What is a Combined License?

- Combined License (COL) means a combined construction permit and operating license with conditions for a nuclear power plant
- COL can reference ESP, DCR, both, or neither
- A COL is the fundamental licensing process in Part 52 for reducing the financial risks for electric companies building new nuclear power plants

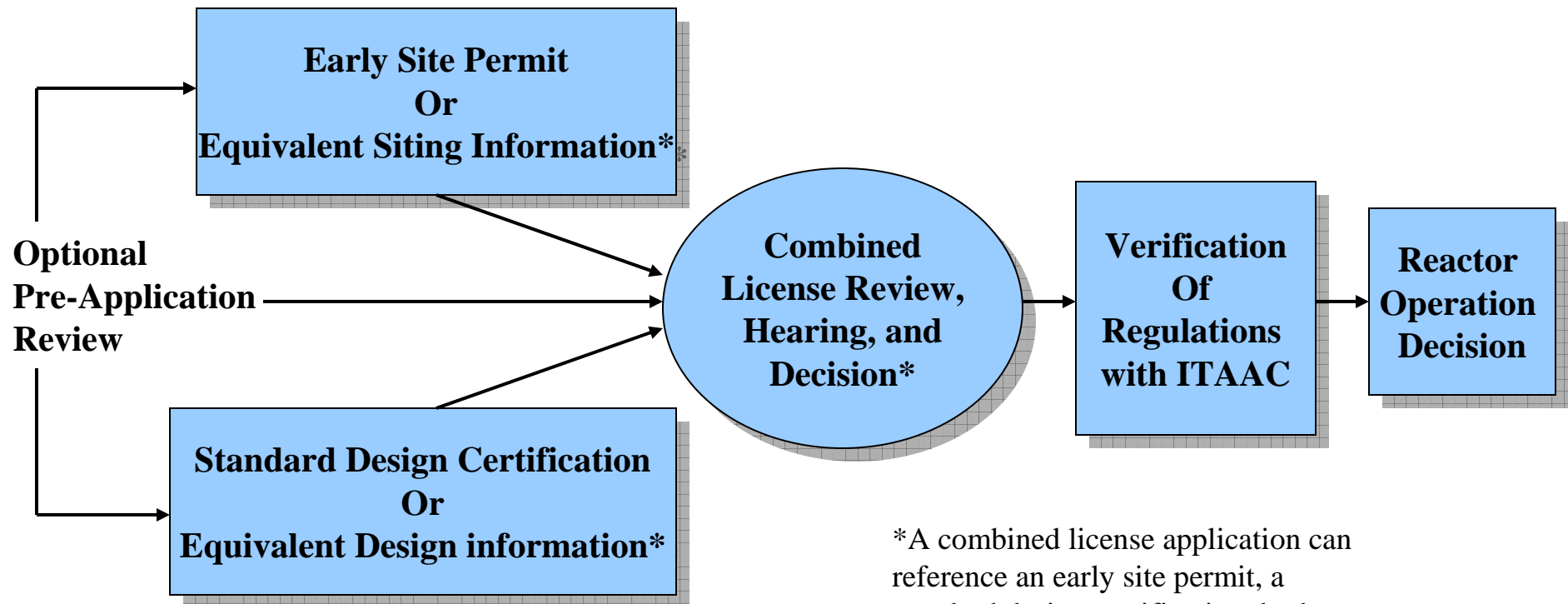


Combined License Review

- Design, Environmental Impact, Site Safety, Qualifications, and Operational Programs
- ITAAC verifies that facility has been constructed and will operate in conformance with the license, AEA, and NRC's regulations
- Inspections performed to support decision on whether all ITAAC have been met
- If Commission finds that all ITAAC are met, then licensee is authorized to load nuclear fuel



Part 52 Licensing Process



*A combined license application can reference an early site permit, a standard design certification, both, or neither. If an early site permit and/or a standard design certification is not referenced, the applicant must provide an equivalent level of information in the combined license application.



Advanced Nuclear Facility

- “Reactor design approved after
December 31, 1993”
- Final design approvals under
Appendix O to Part 52
 - Design certifications under
Subpart B of Part 52
 - Custom design under Subpart C



Final Design Approvals

- ABWR approved July 13, 1994
- System 80+ approved July 26, 1994
- AP600 approved September 3, 1998
- AP1000 approved September 13, 2004



Design Certifications

- Advanced Boiling Water Reactor - GE Nuclear Energy
Design Certification approved May 2, 1997
- System 80+ Standard Plant Design - Westinghouse
Design Certification approved May 7, 1997
- AP600 Standard Plant Design - Westinghouse
Design Certification approved December 16, 1999
- AP1000 Standard Plant Design - Westinghouse



Commence Construction

- Issuance of a combined license with ITAAC under 10 CFR 52.97
- Issuance of limited work authorizations for pre-construction activities under 10 CFR 50.10(e)



ITAAC Schedules

- No ITAAC schedules in COL process
- Same verification as inspections for OLs
- No hold points during past inspections
- “proceed at own risk” (section IX.A.1)
- “proceed at own risk” [proposed 52.99(b)]
- May complete some ITAAC before COL



Hearing opportunity

- Show *prima facie* that acceptance criteria have not been or will not be met
- Commission will decide to deny or grant request for the pre-operational hearing
- Commission will determine appropriate hearing procedures
- Petition to modify COL under 2.206



Full-power operation

- Nuclear fuel loading and pre-critical testing (zero power) under 52.103(g)
- Low-power testing and operation not in excess of 5% power
- Power ascension testing and operation not in excess of 100% power
- Interim operation under 52.103(c)